

1 BILL NO. S-90-02- 08

2 SPECIAL ORDINANCE NO. S- *Loch*

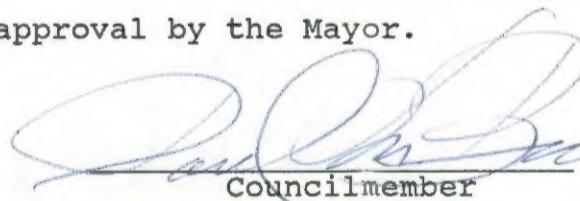
3 AN ORDINANCE approving the awarding of
4 Reference #911 by the City of Fort
5 Wayne, Indiana, by and through its
6 Department of Purchasing and OLIN WATER
7 SERVICES for the Three Rivers Filtration
8 Plant.

9 NOW, THEREFORE, BE IT ORDAINED BY THE COMMON COUNCIL OF
10 THE CITY OF FORT WAYNE, INDIANA;

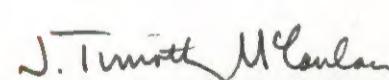
11 SECTION 1. That Reference #911 between the City of
12 Fort Wayne, by and through its Department of Purchasing and
13 OLIN WATER SERVICES for the Three Rivers Filtration Plant,
14 respectfully for:

15 the purchase of sodium chlorite for the
16 Three Rivers Filtration Plant;
17 involving a total cost of Fifty-Nine Thousand Seventy-Two
18 and no/100 Dollars (\$59,072.00), all as more particularly
19 set forth in said Reference #911 which is on file in the
20 Office of the Department of Purchasing, and is by reference
21 incorporated herein, made a part hereof, and is hereby in
22 all things ratified, confirmed and approved.

23 SECTION 2. That this Ordinance shall be in full force
24 and effect from and after its passage and any and all
25 necessary approval by the Mayor.

26 
27 Councilmember

28 APPROVED AS TO FORM
29 AND LEGALITY

30 
31 J. Timothy McCaulay, City Attorney

32

Read the first time in full and on motion by Burns,
seconded by Maria, and duly adopted, read the second time by
title and referred to the Committee on City Utilities (and the
City Plan Commission for recommendation) and Public Hearing to be held after
due legal notice, at the Council Conference Room 128, City-County Building,
Fort Wayne, Indiana, on _____, 19_____, at _____ o'clock _____ M., E.S.T.
of _____

DATED: 2-13-90.

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

Read the third time in full and on motion by Burns,
seconded by Gia Quinta, and duly adopted, placed on its
passage. ~~PASSED~~ LOST by the following vote:

	<u>AYES</u>	<u>NAYS</u>	<u>ABSTAINED</u>	<u>ABSENT</u>
<u>TOTAL VOTES</u>	<u>0</u>	<u>8</u>	<u>1</u>	
<u>BRADBURY</u>		<u>✓</u>		
<u>BURNS</u>		<u>✓</u>		
<u>EDMONDS</u>		<u>✓</u>		
<u>GiaQUINTA</u>		<u>✓</u>		
<u>HENRY</u>			<u>✓</u>	
<u>LONG</u>		<u>✓</u>		
<u>REDD</u>		<u>✓</u>		
<u>SCHMIDT</u>		<u>✓</u>		
<u>TALARICO</u>		<u>✓</u>		

DATED: 4-24-90

Sandra E. Kennedy
SANDRA E. KENNEDY, CITY CLERK

Passed and adopted by the Common Council of the City of Fort Wayne,
Indiana, as (ANNEXATION) (APPROPRIATION) (GENERAL)
(SPECIAL) (ZONING MAP) ORDINANCE RESOLUTION NO. _____
on the _____ day of _____, 19_____,

ATTEST

SEAL

PRESIDING OFFICER

SANDRA E. KENNEDY, CITY CLERK

Presented by me to the Mayor of the City of Fort Wayne, Indiana, on
the _____ day of _____, 19_____,
at the hour of _____ o'clock _____ M., E.S.T.

SANDRA E. KENNEDY, CITY CLERK

Approved and signed by me this _____ day of _____,
19_____, at the hour of _____ o'clock _____ M., E.S.T.

PAUL HELMKE, MAYOR

REF. NO.: 911
DEPT.: FILTRATION PLANT
DATE: 1/30/90
ITEM/SERV.: SODIUM CHLORITE

PURCHASING INFORMATION

ADVERTISED BID: YES
DATES ADVERTISED: 12/9/89, 12/16/89
OPENING DATE: 12/28/89
WRITTEN QUOTE:
DUE DATE:
VERBAL QUOTE:
SINGLE SOURCE:
NO. OF VENDORS NOTIFIED: 11
NO. OF VENDORS RECEIVING BID: 4
NO. OF VENDORS RETURNING BID: 1
NO. OF VENDORS DISQUALIFIED: 0
NO. OF VENDORS NOT RESPONDING: 10
DATE SENT TO DEPT FOR RECOMM.: 12/28/89
DATE RECOMMENDATION REC'D IN PURCH: 1/30/90

COUNCIL INFORMATION	DATES SENT	EXTENSION DATES
DATE INFO SENT TO LAW DEPT.:	1/30/90	
INTRODUCTION DATE:	2/13/90	
DISCUSSION DATE:	2/20/90	
PASSAGE DATE:	2/27/90	
ORDINANCE NO.:		
AMOUNT APPROVED AND/OR SPENT LAST YEAR: (IF APPLICABLE)		

REFERENCE NO. 911
FILTRATION PLANT
SODIUM CHLORITE

DESCRIPTION	QTY	UNIT	OLIN WATER
COST LB	26000	LB	\$2.272 \$59,072.00
FRGHT TRUCK			N/A
FRGHT RAIL			N/A
DELIVERY ARO			5 DAYS

FRONT PAGE/INVITATION TO BID
DEPARTMENT OF PURCHASING
CITY OF FORT WAYNE, ALLEN COUNTY, INDIANA
ONE MAIN STREET - ROOM 350
PHONE 219-427-1101

BID OPENING DATE 12-28-89 @ 11:00 AM BID REFERENCE # 911

SEALED BIDS SHOULD BE DELIVERED TO DEPARTMENT OF PURCHASING, ROOM 350, CITY-COUNTY BUILDING UP TO 11:00 A.M. ON OR BEFORE OPENING DATE.

SEALED BIDS WILL BE OPENED PUBLICLY AT 11:01 A.M. IN THE BOARD OF WORKS & SAFETY CONFERENCE ROOM ON THE THIRD FLOOR OF THE CITY-COUNTY BUILDING. "NO LATE BIDS WILL BE ACCEPTED AFTER 11:00 A.M. FOR ANY REASON WHATSOEVER".

THIS INVITATION FOR BID IS FOR 1990 REQUIREMENTS FOR SODIUM
CHLORITE FOR CITY OF FORT WAYNE

AND REQUESTED BY THREE RIVERS FILTRATION PLANT

THIS BID REQUIRES A XXXXX 5% BID BOND, CERTIFIED OR CASHIER'S CHECK OF ALL BIDDERS.

THIS BID REQUIRES A _____ 100% PERFORMANCE BOND OF SUCCESSFUL BIDDER(S).

PROMPT PAYMENT DISCOUNTS WILL BE ALLOWED AS FOLLOWS: _____ %
IF PAID WITHIN _____ DAYS.

THIS INVITATION IS ISSUED TO ESTABLISH A CONTRACT TO SUPPLY THE CITY OF FORT WAYNE WITH A COMMODITY OR SERVICE IN ACCORDANCE WITH ACCOMPANYING SPECIFICATIONS.

THE EXECUTION HEREOF BY THE BIDDER IS ACCEPTANCE OF ALL TERMS AND CONDITIONS HEREIN AND IN THAT REGARD THE BIDDER AGREES TO BE BOUND BY SAME AND BE BOUND TO THE AMOUNT OF HIS/HER BID FOR A PERIOD OF NINETY (90) DAYS.

FIRM NAME OLIN WATER SERVICES

STREET ADDRESS 9393 W. 110TH ST., SUITE 600

CITY OVERLAND PARK, KS PHONE # (913) 451-3100

BY Steven T. Warshaw
REPRESENTATIVE SIGNATURE Steven T. Warshaw

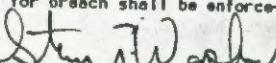
BID, OFFER OR PROPOSAL FOR SALE OR LEASE OF MATERIALS

(Defined at I.C. 36-1-2-9,5)
(Please type or print)

1. Governmental Unit: City of Fort Wayne Date: December 22, 1989
 2. County: Allen
 3. Bidder (Firm): Olin Water Services
 Address: 9393 W. 110th St., Suite 600
 City/State: Overland Park, KS 66210
 4. Telephone Number: (913) 451-3100
 5. Agent of Bidder (if applicable): N/A

Pursuant to notices given, the undersigned offers bid(s) to City of Fort Wayne (Governmental Unit) in accordance with the following attachment(s) which specify the class or item number or description, quantity, unit, unit price and total amount.

The contract will be awarded by classes or items, in accordance with specifications. Any changes or alterations in the items specified will render such bid void as to that class or item. Bidder promises that he has not offered nor received a less price than the price stated in his bid for the materials included in said bid. Bidder further agrees that he will not withdraw his bid from the office in which it is filed. A certified check or bond shall be filed with each bid if required, and liability for breach shall be enforceable upon the contract, the bond or certified check or both as the case may be.


Signature of Bidder or Agent

BID OFFER OR PROPOSAL

Attach separate sheet listing each item bid based on specifications published by governing body.
Following is an example of the bid format:

Class or Item	Quantity	Unit	Description	Unit Price	Amount

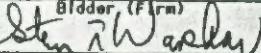
KANSAS
STATE OF KANSAS
JOHNSON) SSI
COUNTY)

NON-COLLUSION AFFIDAVIT

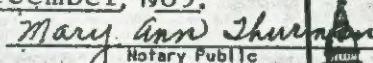
The undersigned bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to induce anyone to refrain from bidding, and that this bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporation has, have or will receive directly or indirectly, any rebate, fee, gift, commission or thing of value on account of such sale.

OLIN WATER SERVICES


Signature of Bidder or Agent

Subscribed and sworn to before me this 22nd day of December, 1989.
My Commission Expires: March 16, 1991
County of Residence: Johnson


Mary Ann Thurman
Notary Public

Mary Ann Thurman
NOTARY PUBLIC
State of Kansas
My APPT. EXPIRES 03/16/91

Mary Ann Thurman
Notary Public Printed Name

ACCEPTANCE

There now being sufficient unobligated appropriated funds available, the contracting authority of (Governmental Unit) hereby accepts the terms of the attached bid for classes or items numbered _____ and promises to pay the undersigned bidder upon delivery the price quoted for the materials stipulated in said bid.

Contracting Authority Members:

Date: _____

PRICE SHEET

SODIUM CHLORITE - ESTIMATED USAGE 26000 POUNDS

COST LB *	COST TON PRODUCT	FRGHT COST TON TRUCK	DEMURRAGE	FRGHT COST TON RAIL	DEMURRAGE	DELIVERY TIME ARO
\$ 2.272	\$ 4,544	\$ N/A	\$ N/A	\$ N/A	\$ N/A	5 days

(Dry Basis 80%)
Delivered

THE PRICE OF SODIUM CHLORITE SHOULD REFLECT THE INCLUSION OF THE C102 SYSTEM AND ANY OTHER ADDITIONAL ITEMS REQUESTED IN PREVIOUS SPECIFICATIONS.

TERM OF AGREEMENT FROM TIME OF AWARD THRU DECEMBER 31, 1990

* \$0.71/lb. of (25% active NaClO₂) OLIN 4010 Blvd.

OLIN WATER SERVICES
TREATMENT PROGRAM FEATURES

- [] Olin Water Services will provide as a part of its chlorine dioxide treatment program a generating system which will be capable of generating chlorine dioxide with no less than a 95% generating efficiency. This generating system will be sized and built to serve the specific needs of the City of Fort Wayne. Said system will be provided for use with sodium chlorite purchased from Olin Water Services and its use will represent no additional cost to the City of Fort Wayne.
- [] The Olin chlorine dioxide generating system will generate chlorine dioxide from sodium chlorite and chlorine gas on a continuous basis and in dosages ranging from 0.25 mg/l to 2.5 mg/l.
- [] The Olin chlorine dioxide generating system will be installed, serviced, and maintained by Olin Water Services. An on-site inventory of spare parts will be maintained to insure that scheduled maintenance and repairs can be readily accomplished. Olin Water Services will provide said parts at no additional cost to the City of Fort Wayne.
- [] Bulk storage tanks with appropriate labeling will be provided by Olin Water Services for use with OLIN 4010 - sodium chlorite. Said tank will be installed and maintained by Olin personnel at no additional cost to the City of Fort Wayne.
- [] Olin Water Services will provide company owned and operated bulk trucks for delivery of the sodium chlorite solution - OLIN 4010. Said deliveries will be managed by Olin personnel and said personnel will be responsible for handling all spills and leakage and will be liable for any claims of judicial action arising from said spills or leakage that are the result of direct action taken by Olin personnel.
- [] Upon acceptance of Olin Water Services' proposal, Olin will provide complete and detailed installation and operation manuals for all supplied equipment. Olin Water Services will also provide at this time Material Safety Data Sheets and other hazardous warning information.
- [] Regular weekly service calls will be made to:
 - 1) Optimize the generating unit's efficiency, maintaining a minimum generating efficiency of 95%
 - 2) Provide preventative maintenance to the generating unit
 - 3) Test for generator pH and disinfectant residuals in system waters
 - 4) System inspection to insure system's integrity
 - 5) Reinforce training of involved plant personnel

- 6) Review plant control records to assure optimization of program administration

Each service visit will include the completion of a field service report which will serve to detail specific services rendered and requests for any operational changes necessary to promote program optimization and which require the involvement of plant personnel.

All such services will be provided at no additional cost to the City of Fort Wayne.

[] Olin Water Services will provide, at no additional costs to the City of Fort Wayne, program start-up and initial training of plant personnel. Start-up will involve monitoring of generation and storage equipment for proper installation and operation. Areas of training will include:

- 1) Physical properties of chlorine dioxide, chlorine, chlorite, chlorate, and/or any other chemicals used in the Olin program
- 2) Chemistry/methods of chlorine dioxide generation
- 3) Optimization of generator performance
- 4) Maintenance procedures
- 5) Safety considerations in operations and chemical handling
- 6) Sampling and testing procedures for chlorine dioxide program administration

[] Olin Water Services will provide the following tests per specified methods on a quarterly basis or more frequently if needed:

- 1) Chlorite analysis in treated water
- 2) Chlorate analysis in treated water
- 3) THM formation potential
- 4) THM levels in the City's distribution system

[] Olin Water Services has provided as an attachment to this document:

- 1) Specified copy of valid and applicable commercial general liability policy
- 2) Specified current credit rating

[] Olin Water Services' personnel will assist in the management of sodium chlorite inventory. Should the need arise, delivery of product shall be no more than five days after notification by authorized City personnel.

- [] Olin Water Services will maintain readiness to serve the City of Fort Wayne on an emergency basis. At least one representative of Olin Water Services will be reachable via a pager service 24 hours per day, seven days per week. Olin Water Services will guarantee a response to any emergency needs within eight hours of notification.
- [] Olin Water Services will provided all of the aforementioned products, equipment, and services as part of part of a total chlorine dioxide treatment program. The City of Fort Wayne shall avail itself of this program by purchasing Olin's sodium chlorite solution, OLIN 4010, from Olin Water Services at a firm per pound price of \$ 0.71/lb, FOB ship point. No additional charges will be made to the City of Fort Wayne for said products, equipment, and/or services.



SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
FIRST NATIONAL INSURANCE COMPANY
OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98185

BID BOND

No. 112

KNOW ALL BY THESE PRESENTS, That we, Olin Corporation

of Stamford, Connecticut (hereinafter called the Principal),
as Principal, and **GENERAL INSURANCE COMPANY OF AMERICA** (hereinafter called the Surety), as Surety, are held
and firmly bound unto City of Fort Wayne, Indiana

(hereinafter called the Obligee) in the penal sum of Fifteen thousand dollars-----

Dollars (\$ 15,000.00)

for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators,
successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, That WHEREAS, the Principal has submitted or is about to submit a
proposal to the Obligee on a contract for
1990 Requirements for Sodium Chlorite for City of Fort Wayne

NOW, THEREFORE, If the said Contract be timely awarded to the Principal and the Principal shall, within such time as
may be specified, enter into the Contract in writing, and give bond, if bond is required, with surety acceptable to the
Obligee for the faithful performance of the said Contract, then this obligation shall be void; otherwise to remain in full
force and effect.

Signed and sealed this 21th day of December 1990

Olin Corporation

(Seal)

Principal

George B. Erensen

Witness

Stephanie Visconti

Vice President of Risk Management Title
and Taxes
GENERAL INSURANCE COMPANY OF AMERICA

By

B.A. Witzel

Attorney-in-Fact

OLIN CORPORATION

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that OLIN CORPORATION, a Virginia corporation, has constituted and appointed, and does hereby constitute and appoint, George B. Erensen, Vice President, Taxes and Risk Management, and Robert D. Bradford, Jr., Director, Risk Management, severally, its attorney-in-fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as surety thereon or otherwise bonds or obligations on behalf of Olin Corporation in connection with bids, proposals or contracts to or with the United States of America, any state or political subdivision thereof or any person, firm or corporation.

And the execution of such bond or obligation by such attorney-in-fact in this Corporation's name and on its behalf as surety thereon or otherwise, under its corporate seal, in pursuance of the authority hereby conferred shall, upon delivery thereof, be valid and binding upon this Corporation.

This document supersedes the Power of Attorney from John W. Johnstone, Jr., President and Chief Executive Officer, to Robert D. Bradford, Jr., Director, Risk Management, dated the 6th day of September 1988.

IN WITNESS WHEREOF, OLIN CORPORATION has caused these presents to be signed by its President and Chief Executive Officer, and its Secretary has attested its corporate seal at its office in Stamford, Connecticut, dated the 26th day of October 1988.

OLIN CORPORATION

By 
John W. Johnstone, Jr.
President and Chief Executive Officer

ATTESTED:


M. Neisloss
Secretary



GENERAL INSURANCE COMPANY OF AMERICA

FINANCIAL STATEMENT — DECEMBER 31, 1988

Assets	Liabilities
Cash and Bank Deposits	\$ 11,903.757
*Bonds of U.S. Government	67,987.251
*Other Bonds	684,773.662
*Stocks	223,113.184
Real Estate	17,197.372
Agents' Balances or Uncollected Premiums...	77,219.188
Accrued Interest and Rents	23,273.295
Other Admitted Assets	<u>25,490.692</u>
 Total Admitted Assets	 \$1,130,958.401
Unearned Premiums	\$ 210,312.900
Reserve for Claims and Claims Expense	122,574.721
Reserve for Dividends to Policyholders	7,180,131
Additional Statutory Reserve	964,405
Reserve for Commissions, Taxes and Other Liabilities	<u>479,364.312</u>
 Total	 \$ 820,396,469
Capital Stock	\$ 2,500,000
Paid in Surplus	2,391,058
Unassigned Surplus	<u>305,670.874</u>
 Surplus to Policyholders	 310,561.932
 Total Liabilities and Surplus	 \$1,130,958.401



*Bonds are stated at amortized or investment value; Stocks at Association Market Values. Securities carried at \$90,190.496 are deposited as required by law.

I, PHILIP A. STEPHENS, senior vice president of General Insurance Company of America, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 1988, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 1st day of March, 1989.

Philip A. Stephens
Senior Vice President

5.885 3 B9

[®] Registered trademark of SAFECO Corporation
PRINTED IN U.S.A.



POWER
OF ATTORNEY

SAFECO INSURANCE COMPANY OF AMERICA
GENERAL INSURANCE COMPANY OF AMERICA
HOME OFFICE: SAFECO PLAZA
SEATTLE, WASHINGTON 98185

7588

No.

KNOW ALL BY THESE PRESENTS:

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint

-----MICHAEL T. LIPCAN, JR.; B. A. WITZEL; ROBERT D. BRADFORD, JR.; Stamford, Connecticut-----

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this 21st day of September, 19 88

Bob A. Dickey
Bob A. Dickey, Secretary

J. M. Cannon
J. M. Cannon, President

CERTIFICATE

Extract from the By-Laws of SAFECO INSURANCE COMPANY OF AMERICA
and of GENERAL INSURANCE COMPANY OF AMERICA:

"Article V, Section 13. — FIDELITY AND SURETY BONDS . . . the President, any Vice President, the Secretary, and any Assistant Vice President appointed for that purpose by the officer in charge of surety operations, shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surety bonds and other documents of similar character issued by the company in the course of its business . . . On any instrument making or evidencing such appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the company, the seal, or a facsimile thereof, may be impressed or affixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

Extract from a Resolution of the Board of Directors of SAFECO INSURANCE COMPANY OF AMERICA
and of GENERAL INSURANCE COMPANY OF AMERICA adopted July 28, 1970.

"On any certificate executed by the Secretary or an assistant secretary of the Company setting out,

- (i) The provisions of Article V, Section 13 of the By-Laws, and
- (ii) A copy of the power-of-attorney appointment, executed pursuant thereto, and
- (iii) Certifying that said power-of-attorney appointment is in full force and effect,

the signature of the certifying officer may be by facsimile, and the seal of the Company may be a facsimile thereof."

I, Bob A. Dickey, Secretary of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA, do hereby certify that the foregoing extracts of the By-Laws and of a Resolution of the Board of Directors of these corporations, and of a Power of Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power of Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation

this 21th day of December, 19 90



Bob A. Dickey
Bob A. Dickey, Secretary



PRODUCT DATA

PROCESS WATER TREATMENT

OLIN 4010 Chlorine Dioxide Precursor

PRIMARY APPLICATION

OLIN 4010 is a non-volatile chlorite formulation specifically designed for use with the patented GENEROX™ Process Generating System for on-site generation of chlorine dioxide.

In municipal water supply and other potable water applications, chlorine dioxide is stable and highly active over a wide pH range, will eliminate taste and odor-causing by-products such as chlorophenols, and produce a minimum of corrosion to system metals at use strength. Chlorine dioxide does not react with humic acid precursors to form trihalomethane compounds.

Chlorine dioxide, in some municipal systems, has demonstrated the ability to:

- Maintain a residual throughout the distribution system
- Reduce taste and odor problems caused by algae
- Oxidize soluble iron and manganese for subsequent removal

When OLIN 4010 is mixed with an aqueous solution of chlorine, under controlled conditions, it reacts instantaneously to form chlorine dioxide.

OLIN 4010 carries EPA Registration No. 33576-7.

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

PHYSICAL PROPERTIES

Appearance	Pale, slightly hazy, yellow liquid
Density (lbs/gal)	10.5
pH (1% solution)	10.7
Available chlorine	39%
Odor	Faint chlorine

DOSAGE

The GENEROX Process Generating System provides precise metering of the chlorine dioxide precursor and the aqueous chlorine solution under controlled conditions for safe and efficient

generation of chlorine dioxide solutions. The exact dosage of OLIN 4010 will depend upon the nature and requirements of the specific application. Your Olin Water Services engineer will provide further details about dosages for your particular system.

FEEDING

The GENEROX Process Generating System is constructed of entirely compatible materials. OLIN 4010 should be fed from the shipping container or bulk storage tank of fiberglass construction. If necessary, equipment constructed of PVC, stainless steel or polyethylene may be used for handling OLIN 4010.

Feed strength solutions of chlorine dioxide should be fed only through rigid PVC piping.

PACKAGING

OLIN 4010 is available in 55 gallon containers and in bulk.

PRECAUTIONARY STATEMENTS

Do not get in eyes, on skin, or on clothing. Do not handle with bare hands. Wear goggles or face shield and use neoprene gloves and only thoroughly clean utensils when handling. Irritating to nose and throat. Avoid breathing fumes. Remove and wash contaminated clothing to avoid fire.

DANGER: Dry OLIN 4010 is a strong oxidizing agent. Mix only into water. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases, and possible fire and explosion. Do not contaminate.

FIRST AID

EYES: Flush with plenty of water for at least 15 minutes. Call a physician.

SKIN: Flush skin with cold water for at least 15 minutes. Call a physician.

INGESTION: Give large amounts of water. Call a physician.

Read product label, safety suggestions label, and Material Safety Data Sheet for more complete information on precautions and handling.

This bulletin and the information contained herein are offered solely for your consideration, investigation and verification. NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR OTHERWISE ARE MADE OR CONTAINED HEREIN. Olin's exclusive responsibility for any claims, including claims based on negligence, arising in connection with the information contained herein or the subsequent purchase, use, storage or handling of the product will in no event exceed Olin's sales price for the product with respect to which damages are claimed. In no event will Olin be liable for any incidental or consequential damages arising in connection with the information contained herein or the subsequent purchase, use, storage or handling of the product. User accepts full responsibility for compliance with all applicable Federal, state and local laws and regulations. Nothing contained herein will be construed to constitute permission or a recommendation to use the product in any process or formulation covered by a patent or a patent application owned by Olin or by others.

Olin CORPORATION

120 LONG RIDGE ROAD, P.O. BOX 1355, STAMFORD, CT 06904-1355

OLIN CORPORATION - POUCH
L. PROUTY
STAMFORD
2-G

Dear Customer:

Enclosed you will find a Material Safety Data Sheet ("MSDS") prepared by Olin to assist its customers in recognizing the potential health or safety hazards, if any, associated with commercial use of a product. MSDSs include information on the maximum and recommended average exposure levels of chemicals in workplace air. MSDSs also recommend appropriate safety guidelines dealing with accidental product leaks or spills in the workplace and outline workplace handling procedures for products.

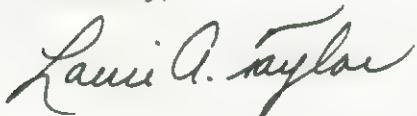
While MSDSs have proved invaluable in the hands of health and safety professionals as a tool for hazard evaluation of products in the confines of the workplace, caution must be exercised against direct extrapolation of MSDS hazard health data to the community environment, outside of the perimeter of the workplace, or use by the general public. For such purposes, safety, health, and environmental professionals should be consulted to interpret MSDS data for each specific situation. In case of an emergency, contact the Olin Corporation Emergency Action Network (OCEAN) at 1-800-OLIN-911, 24 hours a day.

This MSDS is intended for your use in meeting your requirements under OSHA's Hazard Communication Standard, SARA Title III, and state right-to-know laws. You will note that we have modified the format recently to include information on the status of our products under these new laws. Enclosed to further assist you in interpreting the MSDS is a supplement outlining the sections of the MSDS and a glossary of common terms. If you have any questions, please contact me at (203) 356-3449 for assistance during working hours.

Under Olin's computerized order entry system, a copy of the relevant MSDS will automatically be sent to you when you order the product from us at the time of shipment. If an MSDS is updated after your order is sent, we will forward the update with your next shipment of the same product.

We appreciate the opportunity to be of service to you.

Sincerely,



Lauri A. Taylor
Supervisor
Material Safety Data Sheet Control Group

MSDS ENCLOSED:
PRODUCT NAME: OLIN 4010
PRODUCT CODE: WPE401000



MATERIAL SAFETY DATA

OCEAN NETWORK EMERGENCY PHONE 1-800-OLIN-911

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THIS PRODUCT MAY BE CONSIDERED TO BE A HAZARDOUS CHEMICAL UNDER THAT STANDARD. (REFER TO THE OSHA CLASSIFICATION IN SEC. I.) THIS INFORMATION IS REQUIRED TO BE DISCLOSED FOR SAFETY IN THE WORKPLACE. THE EXPOSURE TO THE COMMUNITY, IF ANY, IS QUITE DIFFERENT.

I. PRODUCT IDENTIFICATION

REVISION NO : 1

REVISION DATE : 8/21/89

PRODUCT CODE : WPE401000

FILE NUMBER : WPE00039.0007

PRODUCT NAME: OLIN 4010

SYNOMYS: Sodium Chlorite, 25%

CHEMICAL FAMILY: Inorganic salt

FORMULA: NaClO₂

DESCRIPTION: Oxidizer

OSHA HAZARD CLASSIFICATION: Oxidizer, skin and eye hazard, corrosive

II. COMPONENT DATA

PRODUCT COMPOSITION

CAS or CHEMICAL NAME: Sodium chlorite

CAS NUMBER: 7758-19-2

PERCENTAGE RANGE: 25-30%

HAZARDOUS PER 29 CFR 1910.1200: Yes

EXPOSURE STANDARDS: None established

CAS or CHEMICAL NAME: Sodium chloride

CAS NUMBER: 7647-14-5

PERCENTAGE RANGE: 1-5%

HAZARDOUS PER 29 CFR 1910.1200: No

EXPOSURE STANDARDS: None established

CAS or CHEMICAL NAME: Sodium sulfate

CAS NUMBER: 7757-82-6

PERCENTAGE RANGE: 0-1.3%

HAZARDOUS PER 29 CFR 1910.1200: Yes

EXPOSURE STANDARDS: None established



MATERIAL SAFETY DATA

V. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:

RESPIRATORY PROTECTION: Wear a NIOSH/MSHA respirator, if vapors, mists or aerosols are generated, approved for chlorine gas and equipped with dust/mist pre-filters.

VENTILATION: Local exhaust ventilation is recommended if vapors, mists or aerosols are generated. Otherwise, use general exhaust ventilation.

SKIN PROTECTIVE EQUIPMENT: Wear gloves, boots, apron and a face shield with safety glasses.

EQUIPMENT SPECIFICATIONS:

RESPIRATOR TYPE: Not normally needed

GLOVE TYPE: Neoprene

BOOT TYPE: Impervious

APRON TYPE: Impervious

PROTECTIVE SUIT: Not normally required

VI. FIRE AND EXPLOSION HAZARD INFORMATION

FLAMMABILITY DATA:

FLAMMABLE: No

COMBUSTIBLE: No

PYROPHORIC: No

FLASH POINT: Not Applicable

AUTOIGNITION TEMPERATURE: No Data

FLAMMABLE LIMITS AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE (PERCENT VOLUME IN AIR): Not Applicable

NFPA RATINGS: Not Established

HMIS RATINGS:

Health: 3

Flammability: 1

Reactivity: 1

EXTINGUISHING MEDIA: Not Applicable

FIRE FIGHTING TECHNIQUES AND COMMENTS: Use water to cool containers exposed to fire. See Section XI for protective equipment for fire fighting. On small fires use agent suitable for surrounding fire as material itself does not burn. On large fire use water in flooding quantities as fog. The dried material in contact with combustibles could ignite if evaporated to dryness.

IX. TOXICOLOGY AND HEALTH INFORMATION

ROUTES OF ABSORPTION

Oral, Dermal, Inhalation and Eye Contact

WARNING STATEMENTS AND WARNING PROPERTIES

HARMFUL IF SWALLOWED.

MAY CAUSE IRRITATION OR BURNS TO SKIN AND EYES.

HARMFUL IF INHALED.

HUMAN DOSE RESPONSE DATA:

ODOR AND IRRITATION THRESHOLD: There is no data available on the odor threshold of sodium chlorite.

A human eye sting test performed on human volunteers was conducted using a 40 ppm sodium chlorite solution at pH 7.2. Under those conditions, sodium chlorite did not cause a "stinging" response in the limited number of persons tested.

TOXIC DOSE AND EFFECT: There is no data available on the concentrated product's effect on humans. However considerable data exists on sodium chlorite's effects on humans at concentrations in the ppm range as used to disinfect drinking water (in the form of chlorine dioxide). Controlled clinical studies and case reports have shown no adverse effects, except for one case report of chlorine dioxide causing anemia in a person already deficient in an enzyme necessary for hemoglobin synthesis (G6PD). A controlled study could not confirm this finding. Concentrations added to the drinking water were up to 5 mg/l.

IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: There is no level established for this chemical.

SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE:

INHALATION:

ACUTE: Inhalation may cause irritation of the mucous membranes and respiratory tract. Symptoms may include coughing, bloody nose and sneezing. Severe overexposures may cause lung effects (damage).

CHRONIC: There is no data available on the chronic effects of inhalation of sodium chlorite.



MATERIAL SAFETY DATA

TOXICITY TO BIRDS AND AQUATIC ORGANISMS:

Sodium chlorite is slightly toxic to fish and other aquatic organisms. For bluegill (*Lepomis macrochirus*) aquatic toxicity studies have shown a TL 50 of 208 mg/l and LC 50 values of 265-310 mg/l. Rainbow trout (*Salmo gairdneri*) have been tested and shown acute toxicity values of 50.6 mg/l (TL 50) and 290 mg/l (LC 50). Of the aquatic species tested, *Daphnia* have been the most sensitive species tested with an LC 50 of 0.29 mg/l.

Sodium chlorite is acutely toxic to birds when administered by gavage. The acute oral LD 50 in mallard ducks is 0.49-1.00 g/kg. In bobwhite quail the LD 50 is 0.66 g/kg.

Sodium chlorite in the diet of birds was not acutely toxic. Eight day dietary LC 50's in mallard ducks and bobwhite quail were both greater than 10,000 ppm in the diet.

ACUTE TARGET ORGAN EFFECTS IN ANIMALS: Animals acutely exposed to sodium chlorite have shown effects due to the oxidizing nature of the material, including severe irritation or burns of the skin or eyes, and gastroenteritis effects from oral ingestion, including bloody stools and diarrhea.

CHRONIC TARGET ORGAN EFFECTS IN ANIMALS: Repeated exposures to solutions of chlorine dioxide at concentrations of 10-100 ppm have produced slight effects upon the thyroid in younger animals and the hematologic system. Exposures to these concentrations can reduce the cellular and blood levels of glutathione, an agent which is protective against the oxidizing effect of this chemical. Exposure of laboratory animals above 100 ppm in the drinking water have shown a decrease in blood cell glutathione, red blood cell counts and hemoglobin. In some studies these levels also caused a slight decrease in thyroid hormones, especially in younger animals.

DEVELOPMENTAL AND REPRODUCTIVE TOXICITY:

Sodium chlorite has not been found to be teratogenic in studies in which animals have been exposed up to 100 ppm in the drinking water. Male rats repeatedly exposed to concentrations of 100 ppm or greater in the drinking water have shown slight effects on sperm motility. No effects were observed at 10 ppm and no effects were observed on fertility rate, histology of the male reproductive system or conception rate of animals exposed at 10 ppm or higher.



MATERIAL SAFETY DATA

Water Release - This material is soluble in water.

Land Spill - Create a dike or trench to contain all liquid material. Continue to keep material in a liquid state at all times. Do not allow to dry out. absorb material in a non-flammable absorbant. Continue to keep damp. Compatible absorbents: Clay soil, commercial absorbents

SPILL RESIDUES: Dispose of per guidelines under Section XII , Waste Disposal.

PERSONAL PROTECTION FOR EMERGENCY SPILL AND FIRE-FIGHTING SITUATIONS: Response to this material requires the use of a self-contained breathing apparatus (SCBA). Additional protective clothing must be worn to prevent personal contact with this material. Those items include but are not limited to boots, gloves (see below for compatible materials). hard hat, splash-proof goggles and impervious clothing, i.e., chemically impermeable suit.

Compatible materials for response to this material are:

Neoprene	Chlorinated Polyethylene
Polyvinyl chloride	Butyl Rubber
Viton	Polyvinyl Alcohol
Saranex	

Protection concerns must also address the potential of the physical characteristics of this product as a fire or explosive hazard if allowed to dry, harmful by ingestion and a corrosive by contact.

XII. WASTE DISPOSAL

If this product becomes a waste, it meets the criteria of a hazardous waste as defined under 40 CFR 261 and would have the following EPA hazardous waste number: D002.

As a hazardous liquid waste, it must be disposed of in accordance with local, state and federal regulations in a permitted hazardous waste treatment, storage and disposal facility by treatment.

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.



MATERIAL SAFETY DATA

10. Emergency Response Guide (D.O.T.). Washington, DC: U.S. Government Printing Office, 1987.
11. Fire Protection Guide on Hazardous Materials, 9th Ed., National Fire Protection Association, Batterymarch Park, Quincy, MA, 1986.
12. Gosselin, R., et al., Gosselin-Clinical Toxicology of Commercial Products, 5th Ed., Baltimore: Williams and Wilkins, 1984.
13. Hazardline, Occupational Health Services Inc., New York, NY.
14. IARC Monogram on the Evaluation of Carcinogenic Risk of Chemicals to Man., Geneva: World Health Organization, International Agency for Research on Cancer.
15. Lenga, R., The Sigma-Aldrich Library of Chemical Safety Data, 1st Ed., Milwaukee, WI: Sigma-Aldrich Corporation, 1985.
16. Lewis, R. and D. Sweet, Eds., Registry of Toxic Effects of Chemical Substances, 1985-1986, Washington, DC: U.S. Government Printing Office, 1987.
17. Medline, U.S. National Library of Medicine, Bethesda, MD.
18. NIOSH Pocket Guide to Chemical Hazards. Washington, DC: U.S. Government Printing Office, 1985.
19. Olin Respiratory Protection Manual.
20. Sax, N. Irving, Dangerous Properties of Hazardous Materials 6th Ed., New York: Van Nostrand Reinhold Company, 1984.
21. Threshold Limit Values and Biological Exposure Indices for 1988-89. Cincinnati, OH: American Conference of Government Industrial Hygienists, 1987.
22. Toxic Substances Control Act Inventory, Washington, DC: U.S. Government Printing Office, 1986.



EPA REG. NO.
33576-7

OLIN 4010

FOR USE IN THE MECHANICAL GENERATION OF CHLORINE DIOXIDE AS A DISINFECTANT, SANITIZER, OR FOR MICROORGANISM CONTROL AND AS A CHEMICAL OXIDANT IN AQUATIC SYSTEMS.

WATER SERVICES®

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMAN AND DOMESTIC ANIMALS

DANGER: HIGHLY CORROSIVE - CAUSES EYE DAMAGE AND SKIN BURNS. IRRITATING TO NOSE, ROD THROAT. MAY BE HARMFUL IF INHALED. MAY BE FATAL IF SWALLOWED.

Do not get in eyes, on skin, or on clothing. Do not handle with bare hands. Wear regular or face shield and use respirator. Gloves and only thoroughly clean utensils when handling. Irritating to nose and throat. Avoid breathing fumes. Rinse and wash contaminated clothing by cold water.

ENVIRONMENTAL HAZARDS-

This pesticide is toxic to fish. Do not discharge into lakes, streams, ponds, or public waters unless in accordance with an MLECS permit. For guidance, contact your Regional Office of the EPA. Do not contaminate water by cleaning of equipment or disposal of waste. Apply this pesticide only as specified on this label.

CHEMICAL HAZARDS-

Danger: Dry OLN 4010 is a strong oxidizing agent. Mix only into water. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases (chlorine dioxide - a powerful explosive gas), and possible fire and explosion. Do not contaminate with petroleum, diesel, organic solvents, vinegar, benzene, oils, pine oil, strong soap or any other foreign matter.

EMERGENCY HANDLING-

In case of contamination or decomposition, do not reuse container. If possible, isolate container in open and well ventilated area. Flood with large volumes of water. If fire occurs, extinguish fire by applying large volumes of water. Any unopened drums near the fire should be cooled by spraying with water.

EPA EST. NO.
33576-K5-1
33576-NY-1
1258-NY-2

ACTIVE INGREDIENTS: SODIUM CHLORITE.....25%
(AVAILABLE CHLORINE-39%)
Contains 2.5 pounds Sodium Chlorite per gallon at 75%.

KEEP OUT OF REACH OF CHILDREN
D A N G E R

SEE SIDE PANEL FOR ADDITIONAL
PRECAUTIONARY STATEMENTS

FIRST AID

IF IN EYES: Flush with plenty of water for at least 15 minutes. Call a physician.

IF ON SKIN: Flush skin with cold water for at least 15 minutes. Call physician.

IF SWALLOWED: Give large amounts of water. Call physician.

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

FEED REQUIREMENTS

Feed rates of OLN 4010 will depend on the severity of contamination and the degree of control desired. The exact dosage will depend on the size of the system and residual necessary for effective control. Approximately one pound of chlorine dioxide is generated from 6.6 pounds of OLN 4010 and an aqueous solution of chlorine.

ROUTINE FEED

Large amounts of chlorine dioxide can be generated using OLN WATER SERVICES' OLNOLIN generator by two common methods: 1.) The chlorine method which utilizes OLN 4010 and chlorine gas, or 2.) The hydrochlorite method which utilizes OLN 4010, a hydrochlorite solution and an acid. Your Olin representative can guide you in the selection, installation and operation of the OLNOLIN feed system. Consult Product Bulletin and also the instructions on the OLNOLIN feed system. Consult Product Bulletin and also the instructions on the OLNOLIN feed system before using OLN 4010.

DIRECTIONS FOR USE (CONTINUED)

STORAGE AND DISPOSAL

PESTICIDE DISPOSAL:

Do not contaminate water, food or feed by storage or disposal. Keep product dry in a tightly closed container when not in use. Do not drop, roll or skip drum. Keep upright. Always replace cover. Store in a cool, dry, well ventilated area away from heat or open flame. Do not reuse empty container.

CONTAINER DISPOSAL:

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation Federal law. If these wastes can not be disposed of by use according to label instructions, contact your State pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

GAL. NET CONTENTS

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OLIN WATER SERVICES, OVERLAND PARK, KANSAS 66210

Olin Corporation, Stamford, Conn. 06904



CHLORINE DIOXIDE DRINKING WATER REFERENCES

TEXAS

Dow Plant B	409-238-7482	Ernie Schreiber
McAllen	512-686-1371	Allen Booé
San Angelo	915-657-4207	Dennis Long
Tomball	713-351-5484	James Gaudéau

LOUISIANA

Donaldsonville	504-473-7603	Fred Overman
Terrebone Parish	504-879-2495	Steve Hornsby

ALABAMA

Mobile	205-694-3100	Jon Von Sprechen
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KENTUCKY

Newport	606-441-0763	David Bloesing
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9393 WEST 110TH STREET, OVERLAND PARK, KANSAS 66210 (913) 451-3100

December 22, 1989

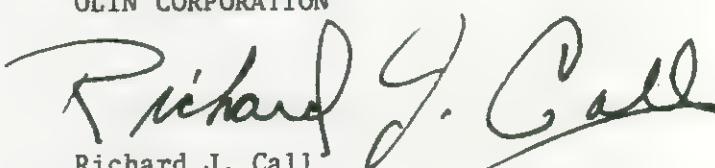
Front Page/Invitation to Bid
Department of Purchasing
City of Fort Wayne, Indiana
One Main Street, Room 350
Ft. Wayne, IN 48602

SUBJECT: CERTIFICATE OF INSURANCE

Please find enclosed the requested Certificate of Insurance for Worker's Compensation and Employer's Liability coverage issued by the National Union Fire Insurance Company of Pittsburgh, Pa. for the period of July 1, 1989 to July 1, 1990.

Also enclosed is a certificate evidencing Comprehensive General Liability and Automobile Liability insurance completed by the National Union Fire Insurance Company of Pittsburgh, Pa. for the period of March 1, 1989 to March 1, 1990.

OLIN WATER SERVICES
OLIN CORPORATION


Richard J. Call
Manager, Safety & Loss Prevention

RJC:mc

Enclosures

cc: B. A. Witzel - Stamford 3A

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

12/22/89

PRODUCER

Johnson & Higgins
125 Broad Street
New York, New York 10004

CODE SUB-CODE

INSURED

Olin Corporation
120 Long Ridge Road
Stamford, Connecticut 06904-1355

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERNS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A

National Union Fire Insurance Company of Pittsburgh, Pa.

COMPANY LETTER B

COMPANY LETTER C

COMPANY LETTER D

COMPANY LETTER E

COVERS

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS
	GENERAL LIABILITY				
A	X COMMERCIAL GENERAL LIABILITY X X CLAIMS MADE OCCUR. OWNER'S & CONTRACTOR'S PROT. X Broad Form Vendors	RMCGLA459-6330	3/1/89	3/1/90	GENERAL AGGREGATE \$ — PRODUCTS-COMP/OPS AGGREGATE \$ 3,000 PERSONAL ADVERTISING INJURY \$ 2,000 EACH OCCURRENCE \$ 2,000 FIRE DAMAGE (Any one fire) \$ 2,000 MEDICAL EXPENSE (Any one person) \$ —
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT \$ 2,000 BODILY INJURY \$ (Per person) BODILY INJURY \$ (Per accident) PROPERTY DAMAGE \$
A	X ANY AUTO X ALL OWNED AUTOS X SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS X GARAGE LIABILITY	RMBAL45-9271	3/1/89	3/1/90	EACH OCCURRENCE \$ \$ AGGREGATE
		RMBATX145-9272	3/1/89	3/1/90	
	EXCESS LIABILITY				STATUTORY
	OTHER THAN UMBRELLA FORM				\$ (EACH ACCIDENT) \$ (DISEASE—POLICY LIMIT) \$ (DISEASE—EACH EMPLOYEE)
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				
OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

CERTIFICATE HOLDER

City of Fort Wayne, Allen County, Indiana
One Main Street, Room 350
Ft. Wayne, IN 48602

Attention: Purchasing Department

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Joseph T. Dwidam
©ACORD CORPORATION 1988

ACORD. CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY)

12/22/89

PRODUCER

Johnson & Higgins
125 Broad Street
New York, N.Y. 10004

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CODE SUB-CODE

INSURED

Olin Corporation
120 Long Ridge Road
Stamford, CT. 06904

COMPANY LETTER A

COMPANY LETTER B

COMPANY LETTER C

COMPANY LETTER D

COMPANY LETTER E

COMPANIES AFFORDING COVERAGE

National Union Fire Ins. Co.
of Pittsburgh, Pa.

COVERS

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)		POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
	GENERAL LIABILITY					GENERAL AGGREGATE	\$
	COMMERCIAL GENERAL LIABILITY					PRODUCTS-COMP/OPS AGGREGATE	\$
	CLAIMS MADE OCCUR.					PERSONAL & ADVERTISING INJURY	\$
	OWNER'S & CONTRACTOR'S PROT.					EACH OCCURRENCE	\$
	AUTOMOBILE LIABILITY					FIRE DAMAGE (Any one fire)	\$
	ANY AUTO					MEDICAL EXPENSE (Any one person)	\$
	ALL OWNED AUTOS					COMBINED SINGLE LIMIT	\$
	SCHEDULED AUTOS					BODILY INJURY (Per person)	\$
	Hired AUTOS					BODILY INJURY (Per accident)	\$
	NON-OWNED AUTOS					PROPERTY DAMAGE	\$
	GARAGE LIABILITY					EACH OCCURRENCE	AGGREGATE
	EXCESS LIABILITY					\$	\$
	OTHER THAN UMBRELLA FORM					STATUTORY	
A	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY	RMWC419-3110 RMWC419-3111 RMWC419-3112	7/1/89 7/1/89 7/1/89		7/1/90 7/1/90 7/1/90	\$ 2,000 \$ 7,000 \$ 2,000	(EACH ACCIDENT) (DISEASE—POLICY LIMIT) (DISEASE—EACH EMPLOYEE)
	OTHER						

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

CERTIFICATE HOLDER

City of Fort Wayne, Allen County, Indiana
One Main Street, Room 350
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Attention: Purchasing Department

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SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

CHLORINE DIOXIDE GENERATION

Chlorine dioxide is generated through the reaction of sodium chlorite with chlorine gas. The Olin Generox chlorine dioxide generating unit educts chlorine into a dilution stream. This stream is then passed through a reaction column where sodium chlorite is added via a metering pump. As previously noted, the Olin generating system is provided as a part of the total treatment program and therefore does not impose any up front capital outlays on the City of Fort Wayne. This can be an important factor since the acquisition cost for currently available generating systems will range from \$ 25,000 to \$ 40,000. This becomes truly significant when consideration is given to Olin's experience that generating units should be replaced every 2 to 3 years since parts in contact with chlorine and chlorine dioxide may become brittle and therefore susceptible to failure.

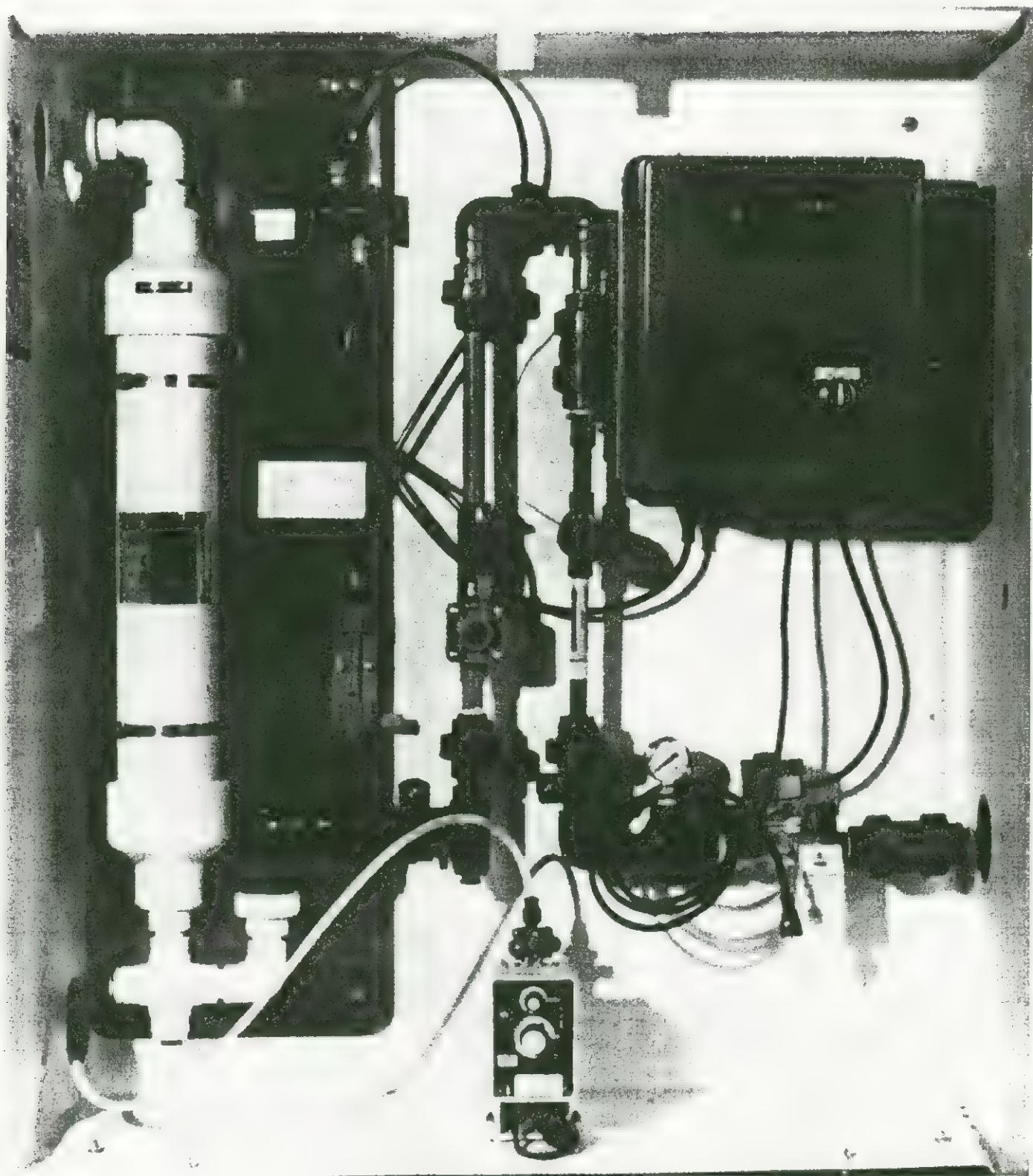
Some of the key features of the Olin Generox unit are:

- [] The cabinet is of light weight durable construction with easy access to internal generating equipment
- [] The metering pump is a dependable electrically actuated diaphragm pump with built in calibration equipment for accurate and dependable delivery of sodium chlorite
- [] An accurate flow meter is included to enable optimization of the unit's generating efficiency
- [] The chlorinator system to be utilized is a vacuum regulator system which will not allow chlorine to enter the system unless a vacuum is present
- [] An automatic purge cycle is actuated when the unit is shut down so that strong chemical solutions are removed from the generator piping
- [] Back check valves assure that none of the reactants enter into the water system unintentionally
- [] The sodium chlorite pump is electrically interlocked to the water flow switch so that when water flow to the generating unit is lost, the sodium chlorite pump automatically shuts down
- [] The vacuum chlorinator minimizes potential for chlorine leaks and is interlocked to the sodium chlorite pump so that sodium chlorite will not be fed if chlorine feed is disrupted for any reason

The most vital aspect of the Olin chlorine dioxide generating system is the accompanying preventative

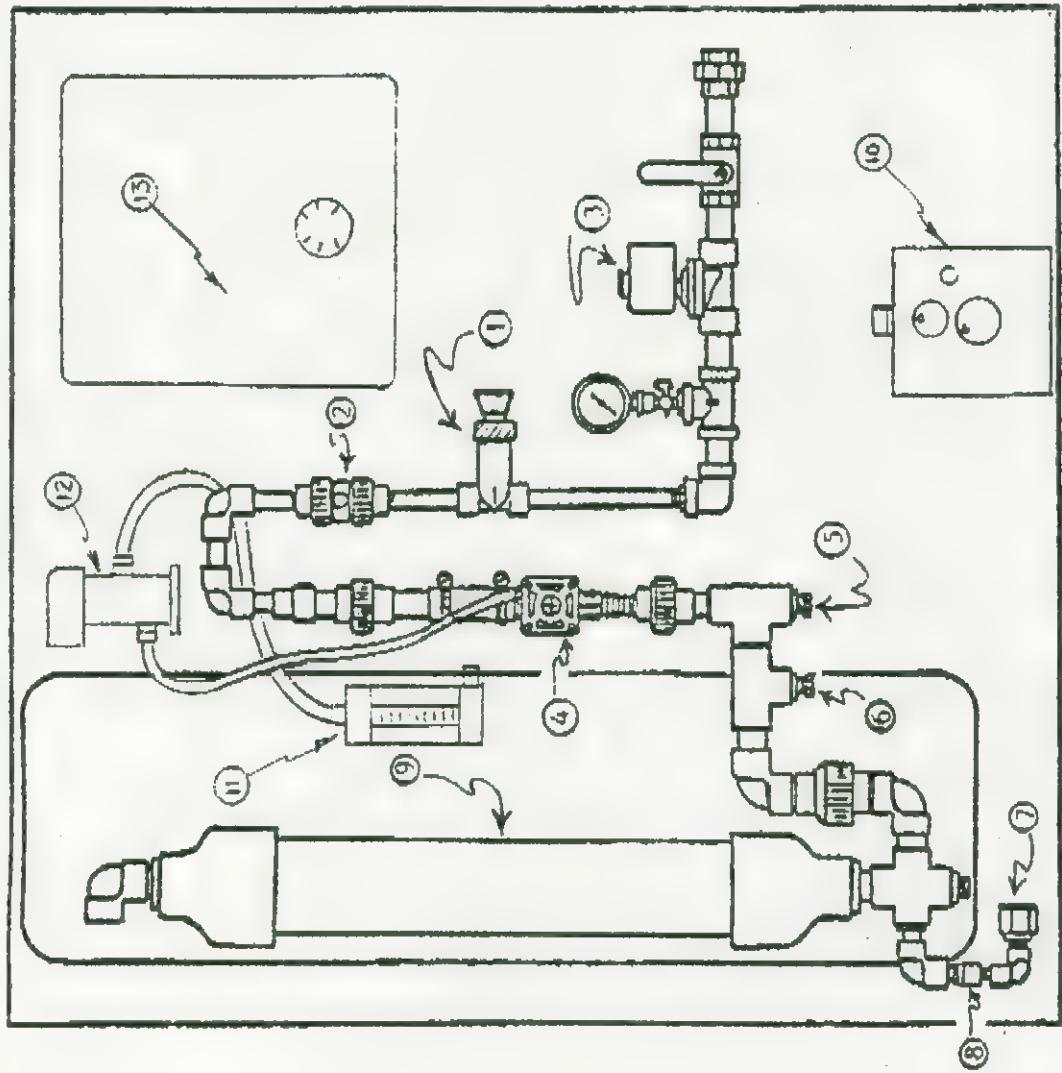
maintenance schedule. Olin Water Services maintains their generating equipment with no associated maintenance costs for the City. Regular preventative maintenance is critical in assuring the continued operation of the generator. An average chlorine dioxide unit contains several major systems. In turn, these systems contain many more individual parts and sub-systems that are critical to the smooth operation of the unit. The Olin program schedules the replacement of these parts before failure can occur.

Finally, since the chlorine dioxide generating system is provided and maintained by Olin Water Services, the City of Fort Wayne will be guaranteed the benefit of continued technology upgrades. This will be very important as the treatment process at Three Rivers Filtration Plant is upgraded to include computer monitoring and/or control.



2000-2001 DRAFT BUDGET

- 1) "Signet" Flow Sensor
- 2) PVC Ball Check Valve
- 3) 1" Water Solenoid Valve
- 4) Chlorine Ejector
- 5) Acid Injection (opc.)
- 6) Hypochlorite Injection (opc.)
- 7) ~~4000~~ Injection Point
- 8) Injection Check Valve
- 9) Model 20 Generator
- 10) Chlorite Feed Pump
- 11) Chlorine Rotameter
- 12) Chlorine Vacuum Gelenoid Valve
- 13) Electrical Components



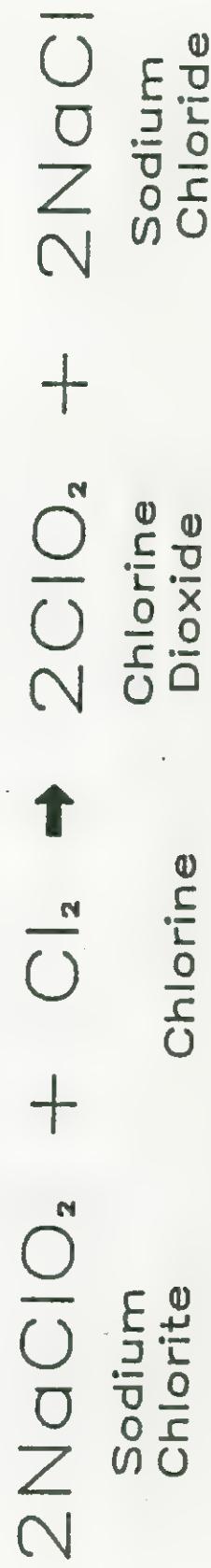
ORIGIN WATER SERVICES
UNIT - "PIPING DIAGRAM"

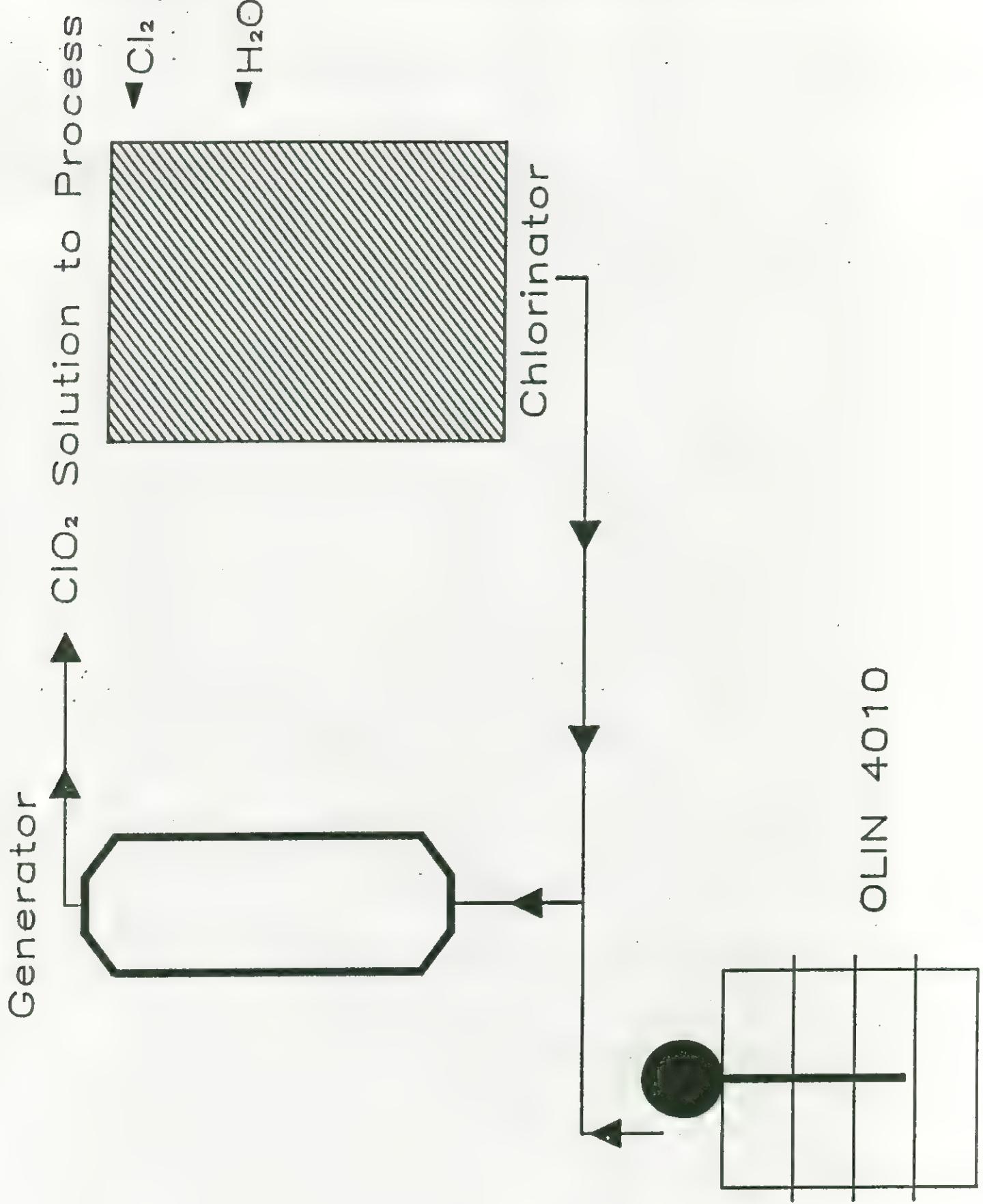
SCALE	1/8	APPROVED BY	DRAWING NO.	DRAWN BY RGE
DATE	10/3/79	KEG	D-632	REVISED

Kansas City
New York
Los Angeles

ClO₂ Generation

Gaseous Chlorine Method







VERNON E. POLAND

OFFICE: 502-425-0683
HOME: 812-299-5296
PAGER: 317-928-7525

QUALIFICATIONS

EDUCATION:

B.A. Secondary Education - Chemistry/Biology
University of Evansville - Evansville, IN

PROFESSIONAL EXPERIENCE:

- Taught chemistry/biology for 3½ years at Castle High School, Newburgh, IN
- Worked as a sales engineer servicing middle market industry, hospitals, universities, commercial buildings, and government/municipal accounts in the Evansville, IN area for 4 years
- Worked as a sales engineer servicing heavy industry and public utilities in the Terre Haute, IN area for 4 years

Industry experience includes the following:

- 1) High and low pressure boilers
- 2) All types of external water conditioning - cold/hot lime softening through demineralization
- 3) Package and field erected boilers
- 4) Coal-fired, oil-fired, gas-fired, and waste heat boilers
- 5) Firetube and watertube boilers
- 6) FDA/USDA applications
- 7) Refrigeration/air conditioning equipment
- 8) Industrial cooling applications
- 9) Free cooling
- 10) HPI, CPI, food, pharmaceutical, municipal drinking water, power, commercial buildings, and institutional applications
- 11) Application of all types of current boiler, cooling, polymer, oxidation, drinking water, and wastewater treatment technology

PROFESSIONAL MISSION:

To develop long-term customer relationships by consistently providing the most cost/performance effective water/energy management program available in today's market.

To assist customer accounts in an engineering capacity on matters related to the use of water but not necessarily limited to the area of chemical treatment.

ANALYTICAL CAPABILITIES

OLIN WATER SERVICES' analytical laboratory's main mission is service to our customers and field staff. Based in Kansas City, Kansas, OWS' laboratories offer a full range of water, deposit, and metallurgical analyses. Our laboratory is certified by the state of Kansas in Water and Wastewater Analyses and utilizes EPA and ASTM procedures for all testing as applicable.

Analytical equipment of note include:

Atomic Adsorption (2) - for routine cation analyses

- One flame unit
- One graphite furnace

Infrared spectrophotometer (1) - for functional group identification in pure organics or inorganics

Ultraviolet/Visible Spectrophotometer (2) - for functional group analysis and Quality Control

Gas Chromatograph (3)

- Purge and Trap unit - for detection and quantification of volatile organic compounds (VOC's)
- Electron Capture Detection unit - for separation and quantification of halogenated organics (i.e. THM's)
- Photo Ionization Detection portable unit - for detection of amines in steam/condensate systems

High Performance Liquid Chromatograph (2) - for separation and proximate identification of low-to-medium molecular weight organics

Dionex Ion Chromatograph (1) - with conductivity, amperometric, and UV detectors to provide analytical capabilities for over 100 cations and anion species

Total Organic Carbon analyzer (1) - for determination of levels of organic carbon

Microtox unit - for the determination of relative toxicity

ONE TIME INTIAL FEE	OLIN	ENG. FIRM/3RFP
CONSTRUCTION COST		
GENERATING SYSTEM		
SODIUM CHLORITE TANK	\$0	\$ 9600
PIPING/VALVE STRUCTURE	\$0	\$ 40000
AUTOMATIC FLOW PACING	\$0	\$ 140000
ONE TON CHLORINE HANDLING		
SYSTEM	\$5000	\$ 10000
CHLORINATORS	\$0	\$ 12000
MECHANICAL/ELECTRICAL/		
INSTRUMENTATION	\$0	\$ 38000
SECURITY HOLD	\$4000	\$ 12000
CLO(2) GENERATORS	\$0	\$ 62000

TOTAL CONSTRUCTION	\$9000	\$ 323600 *
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*DOES NOT INCLUDE CONSTRUCTION CONTINGENCY FEE

ANALYTICAL EQUIPMENT

DIONEX IC SYSTEM	N/A	\$ 50000
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INSTALLATION/START UP FEES

ENGINEERING DESIGN FEE	\$0	\$ 50583
CONSTRUCTION INSPECTION FEE	\$0	\$ 6500
START UP FEE	\$0	\$ 5500

TOTAL INSTALLATION FEE	\$0	\$ 62583
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TOTAL INITIAL FEE COMPARISON	\$9000	\$ 436183
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ONGOING OPERATIONAL COSTS	OLIN	3RFP
NaClO(2) at 95% (108014 lbs)	\$245,408	\$188,970
at 80% (128267 lbs)	N/A	\$224,403
at 65% (157867 lbs)	N/A	\$276,188

AVERAGE CHEMICAL COSTS	\$245,408	\$229,854
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CLO(2) GENERATION

PARTS	\$0	\$ 7800
TECH SERVICE (MANUFACTURES REP)	\$0	\$ 4686
REGULAR SERVICE (IN-HOUSE)	\$0	\$ 7518
TOTAL GENERATION COSTS	\$0	\$20004

ANALYTICAL TESTING

DIONEX IC - SERVICE AGREEMENT	N/A	\$2500
- REAGENTS	N/A	\$ 500
- PARTS	N/A	\$1000
TTHM TESTING	\$0	\$ 625

TOTAL ANALYTICAL COSTS	\$0	\$4625
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CONSULTING FEES	\$0	\$5400
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TOTAL ONGOING COSTS	\$245,408	\$259,883
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Calculation Sheet



Computed by BD
Checked by _____

Subject ESTIMATE OF COST Sheet 1 of 1
CHLORINE DIOXIDE SYSTEM Job No. 51100
Client FORT WAYNE Date 3-12-90

CHLORINE DIOXIDE SYSTEM PRELIMINARY ESTIMATE OF COST

QTY.	DESCRIPTION	UNIT PRICE	TOTAL PRICE
2	1000 PPD CHLORINE DIOXIDE GENERATORS MANUAL ADJUSTMENT	\$ 31,000	\$ 62,000
MISC.	DRY TANKS, PUMPS, PLUMBING	L.S.	\$ 40,000
MISC.	ONE TON CHLORINE CYLINDER HANDLING SYSTEM	L.S.	\$ 10,000
2	CHLORINATORS	\$ 6,000	\$ 12,000
MISC.	MECHANICAL/ELECTRICAL/INSTRUMENTATION	L.S.	\$ 38,000
1	40' X 40' MASONRY BUILDING	L.S.	\$ 96,000
SUBTOTAL			\$ 258,000
CONTINGENCIES			\$ 26,000
TOTAL CONSTRUCTION COST ESTIMATE			\$ 284,000

DESIGN, BID & CONSTRUCTION ENGINEERING	\$ 56,000
PRELIMINARY ESTIMATE OF COST	\$ 340,000

NOTES:

- (1) CHEMICAL COSTS ARE NOT INCLUDED IN THIS ESTIMATE.
- (2) IF AUTOMATIC FLOW-PAKED CHLORINE DIOXIDE GENERATORS ARE DESIRED, ADD \$ 140,000 TO TOTAL PRELIMINARY ESTIMATE OF COST.
- (3) ESTIMATES FOR CHLORINE DIOXIDE GENERATORS ARE FROM FISCHER & PORTER. THE GENERATORS THEMSELVES ARE MANUFACTURED BY RIO LINDA.

DIGEST SHEET

TITLE OF ORDINANCE: Special

DEPARTMENT REQUESTING ORDINANCE: Purchasing

SYNOPSIS OF ORDINANCE: An ordinance approving the award of Reference No. 911 for sodium chlorite for the Filtration Plant for 1990. The cost reflects the most responsive vendor.

190-02-28

EFFECT OF PASSAGE: This will provide the Filtration Plant with sodium chlorite and chlorine dioxide generating equipment. Weekly site visits will also be provided for maintaining equipment and updates of training. Introduction of the Surface Water Treatment Rule by EPA mandates CT ratio values in the range of 99.9% efficiency.

EFFECT OF NON-PASSAGE: Violation of Surface Water Treatment Rule thereby subjecting plant to fines.

MONIES INVOLVED: Olin Water \$59,072.00 +/-

PRICE AGREEMENT: Yes

PURCHASE ORDER:

SOURCE OF FUNDING: Filtration 513-523-W154-4257

PRIOR APPROVAL:
(IF APPLICABLE) DATE:

